UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105-3901

January 28, 2002

Tom Scott, Director
Drinking Water Compliance Laboratory
City of Flagstaff Municipal Water System
4500 South Lake Mary Rd
Flagstaff, AZ 86001

Dear Mr. Scott,

I have enclosed a copy of the laboratory results of the perchlorate analyses completed in 1999. All the samples we received from Flagstaff were below one-half of the quantitation limit, which means less than 2.5 micrograms per liter (part per billion). Our analytical chemists could detect no trace of perchlorate in these samples from Flagstaff. We also report the Total Dissolved Solids (TDS) results, since elevated TDS could potentially interfere with accurate low-level perchlorate analysis. The Flagstaff samples are generally very low in TDS. The perchlorate results were validated by EPA's Quality Assurance Office, and their report is also enclosed.

Thank you for your assistance in our 1999 effort.

Please feel free to contact me at (415) 972-3176 or via email at mayer.kevin@epa.gov if you have any questions.

Sincerely,

Kevin P. Mayer

Kevin Mayer, SFD-7-2
Superfund Site Cleanup Branch

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

FLAGSTAFF DATA

OCT - 7 1999

MEMORANDUM

SUBJECT: Case R99S48, SDG 99265B
Results for Perchlorate and Total Dissolved Solids Analysis

FROM: Brenda Bettencourt, Director BB
EPA Region 9 Laboratory (PMD-2)

TO: Kevin Mayer, Remedial Project Manager
Northern California Cleanup Section (SFD-7-2)

Attached are the report narrative and results spreadsheet from analysis of samples from the Colorado River Perchlorate Study. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Colorado River Perchlorate Study
CASE:	R99S48
LABORATORY:	U. S. EPA Region 9 Laboratory
SAMPLE DELIVERY GROUP:	99265B
ANALYSIS:	Perchlorate (R9 Lab SOP 531)
	Total Dissolved Solids (EPA method 160.1)

A full documentation package for these data, including raw data and sample custody documentation, has been prepared and sent to the Quality Assurance Program (PMD-3). Please contact Vance Fong for information regarding review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENT: Analytical Report

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	**R99S48**
SAMPLE DELIVERY GROUP:	**99265B**
PROGRAM:	**SUPERFUND**
DOCUMENT CONTROL #:	**ESTW-9B-2583**
DATE:	**10/05/99**
ANALYSIS:	**PERCHLORATE AND TOTAL DISSOLVED SOLIDS**

SAMPLE NUMBERS:

SAMPLE ID	LABORATORY SAMPLE ID
Woody Mtn. Well	AB24188
Woody Mtn. Raw	AB24189
Lake Mary Raw	AB24190
Lake Mary Surface	AB24191
Lake Mary Plant	AB24192

GENERAL COMMENTS

Five water samples were received from the Colorado River Perchlorate Study Superfund project on 09/22/99.

The requested analyses were perchlorate (Region 9 Lab SOP 531) and total dissolved solids (EPA Method 160.1). All samples were analyzed within the required holding times.

SAMPLE RECEIPT AND PRESERVATION

No custody seals were present. No other shipping or preservation issues were encountered with these samples.

QA/QC SUMMARY

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

No analytes were detected in the blanks associated with this SDG.

Laboratory Fortified Matrix Spike (LFM) and Laboratory Duplicate Analysis (QC Sample: Woody Mtn. Well)

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Both LFM recoveries for perchlorate were within the QC limits. The TDS RPD was less than or equal to the 20% QC limit. For perchlorate, both the sample and duplicate were less than the QL and no RPD was calculated.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

All LFB recoveries were within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

USEPA REGION 9 LABORATORY
QUALIFIER DEFINITIONS FOR INORGANIC SAMPLE RESULTS

U The analyte was analyzed for, but was not detected above one half the Quantitation Limit (QL). The reported value is the QL for all analytes.

J The reported value was obtained from a reading that was less than the Quantitation Limit (QL) but greater than or equal to one half the QL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

N LFM sample recovery not within control limits. The reported value is estimated because the LFM recovery result did not meet the 75-125% criteria for accuracy. The result is considered quantitatively uncertain. The LFM analysis provides information about the effect of the sample matrix on the digestion and measurement methodology.

***** Duplicate analysis not within control limits. Duplicated analyses demonstrate the analytical precision obtained for each sample matrix. The result is estimated and considered quantitatively uncertain. The imprecision between duplicate results may be due to sample non-homogeneity for soil sample, high levels of solids in the sample for water samples, inconsistent laboratory technique, or method defects.

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S48 **Analysis:** Perchlorate and Total Dissolved Solids
Site: Colorado River Perchlorate Study **Matrix:** Water
SDG: 99265B
Date: 10/05/99

Sample No.	N/A		N/A		N/A		N/A		N/A		N/A		Quantitation
Sample I.D.	Woody Mtn. Well		Woody Mtn. Raw		Lake Mary Raw		Lake Mary Surface		Lake Mary Plant		Reagent Blank		Limit
Lab Sample I.D.	AB24188		AB24189		AB24190		AB24191		AB24192		N/A		N/A
Date of Collection	09/21/99		09/21/99		09/21/99		09/21/99		09/21/99		N/A		N/A
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result
Perchlorate (units of ug/L)	5	U	5	U	5	U	5	U	5	U	5	U	5
Total Dissolved Solids (units of mg/L)	130	U	120		320		70		180		20	U	20

Q - Laboratory Data Qualifiers; Refer to EPA Region 9 Laboratory Qualifier Definitions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Date: 2/4/00

MEMORANDUM

SUBJECT: Summary of Data Quality

FROM: Carl Brickner, Jr., Environmental Scientist
Quality Assurance Program (QAP), PMD-3

THROUGH: Vance S. Fong, P.E., Manager
Quality Assurance Program (QAP), PMD-3

TO: Kevin Mayer, Remedial Project Manager
Northern California Cleanup Section, SFD-7-2

Twenty-two (22) water samples from Colorado River were sampled from December 16, 1998 to September 21, 1999. The samples were submitted to the USEPA Region IX Laboratory for Perchlorate and Total Dissolved Solids analysis from September 22, 1999 to October 8, 1999. Three data packages were submitted to the Quality Assurance Program on October 8 and 27, 1999 for final review.

Evaluation of the data packages was performed by the QA Program with the goal of producing a detailed Data Validation Report based on clearly defined and documented project-specific data quality criteria and/or method quality objectives. The report identifies significant and noticeable data quality issues/deficiencies and indicates whether the data quality meets the intended use.

This evaluation included: verification of the analytical results and associated quality assurance/quality control data for completeness, verification of the chain-of-custody forms (against laboratory reported information, for signatures, for sample condition upon receipt by the laboratory and for sample preservation), verification of holding times, review of QC summaries, review of blanks for contamination, check of reported results against raw data, a random check (percentage determined by the professional judgement of the data evaluator on a project specific basis) of all the various calculations in the data set (eg. verify and recalculate concentrations of standards, check expiration dates of standards from standard preparation logs, verify calibration criteria, QC concentrations, etc.), check of raw data for interference problems or system control problems. These criteria were all evaluated in the context of the project data quality objectives.

The following data quality issues should be noted:

Due to method limitations as referenced in "The Inter-Agency Perchlorate Steering Committee Analytical Subcommittee Report", 1999 and the State of California Department of Health Services document "The Determination of Perchlorate in Water by Ion Chromatography, Rev. No.0", 1997 perchlorate does not resolve well at low levels in environmental samples with high total dissolved solids, chloride, or sulfate. This method bias may affect perchlorate at project specified levels of interest and should be kept in mind when using the data.

All of the samples were received at the laboratory without intact custody seals as documented by the sample custodian.

If the data user requires further assistance or has any questions concerning this Summary of Data Quality or the attached Data Validation Report, contact Carl Brickner at (415) 744-1536.

Attachments
cc: Brenda Bettencourt, Laboratory Section, PMD-2

DATA VALIDATION REPORT

SITE:	Colorado River
EPA SSI NO.:	N/A
CERCLIS ID NO.:	N/A
CASE/SAS NO.:	R99S48
SDG NOs.:	99265B, 99271C, and 99279B
LABORATORY:	EPA Region 9 Lab, Richmond
ANALYSIS:	Perchlorate and Total Dissolved Solids
REVIEWER:	Carl Brickner, Jr., QAP
DATE:	February 4, 2000

I. Case Summary

SAMPLE INFORMATION:

Sample Numbers:

SDG 99265B:	Woody Mtn. Well, Woody Mtn. Raw, Lake Mary Raw, Lake Mary Surface, and Lake Mary Plant.
SDG 99271C:	CR abv Imp. Dam (12/16/98), CR abv Imp. Dam (3/24/99), CR abv Imp. Dam (4/28/99), CR abv Imp. Dam (5/26/99), CR abv Imp. Dam (8/25/99), CR @ NIB (12/17/98), CR @ NIB (3/25/99), CR @ NIB (4/27/99), CR @ NIB (5/25/99), CR @ NIB (7/1/99), and CR @ NIB (8/24/99).
SDG 99279B:	0.8 mi. D.S. of Hoover Dam (12/16/98), 0.8 mi. D.S. of Hoover Dam (2/3/99), 0.8 mi. D.S. of Hoover Dam (3/3/99), 0.8 mi. D.S. of Hoover Dam (4/26/99), 0.8 mi. D.S. of Hoover Dam (6/23/99), and 0.8 mi. D.S. of Hoover Dam (8/25/99).

Matrix:	Water
Analysis:	Perchlorate and Total Dissolved Solids
Collection Date:	December 16, 1998 to September 21, 1999
Sample Receipt Date:	September 22, 1999 to October 8, 1999
Analysis Dates:	September 24, 1999 to October 15, 1999

Field Blanks (FB):	None.
Equipment Blanks (EB):	None.
Background Sample (BG):	None.
Field Duplicates (D1):	None.

ANALYSIS DATES:

Analysis	Analysis Date
Perchlorate by IC	September 24 and 30, 1999 and October 13, 1999
Total Dissolved Solids	September 27, 1999 and October 12 and 15, 1999

ATTACHMENTS:

Table 1A: Analytical Results with Qualifications.
Table 1B: Data Qualifiers.

TPO ACTION:

SAMPLING ISSUES: None.
OTHER: None.

TPO ATTENTION:

SAMPLING ISSUES: None.
OTHER: None.

ADDITIONAL COMMENTS:

1. All of the samples were received at the laboratory without intact custody seals as documented by the sample custodian. The effect upon the legal defensibility of the data is unknown.

2. The Quantitation Limit check standard in the total dissolved solids analyses for SDG's 99271C and 99279B had recoveries of 60% and 150%, respectively. These were both outside of the 65 - 135% criteria used by the QA Program for data review. However in the reviewer's professional opinion, since the samples were significantly higher than the level in the Quantitation Limit check standards there would be minimal effect.

3. The analytical results with qualifications are listed in Table 1A. This report was prepared in accordance with EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", February 1994, and referenced State of California Department of Health Services document "The Determination of Perchlorate in Water by Ion Chromatography, Rev. No.0", 1997.

II. Validation Summary

	Acceptable	Comment
Calibration	[Yes]	[ ]
a. Quality Control Sample		
b. Instrument Performance Check Solution		
c. Calibration Blanks		
d. Quantitation Limit Standard		
Sample Quantitation	[Yes]	[A]
Laboratory Reagent Blank	[Yes]	[ ]
Laboratory Fortified Blank	[Yes]	[ ]
Laboratory Fortified Sample Matrix	[Yes]	[ ]
Laboratory Duplicate Sample	[Yes]	[ ]
Sample Preservation and Holding Times	[No]	[B]
Field QC Samples	[N/A]	[ ]
a. Field Duplicate Sample		
b. Field/Equipment Blank		

N/A - Not Applicable

III. Validity and Comments

A. The following results are estimated (J) (see Table 1A):

- All results above one-half the quantitation limit, but below the quantitation limit (denoted with an "L" qualifier).

Results above one-half the quantitation limit but below the quantitation limit (QL) are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

B. Due to exceedence of project holding time criteria, the following results are estimated (J) (see Table 1A):

- Perchlorate and total dissolved solids for all samples in SDG's 99271C and 99279B.

The above samples were collected from December 16, 1998 to August 25, 1999. They were analyzed for perchlorate on September 30, 1999 and October 13, 1999. They were analyzed for total dissolved solids on October 12 and 15, 1999. The project planning documents list a perchlorate holding time of 28 days. The recommended holding time for total dissolved solids is 7 days. The samples listed above may have a low bias.

ANALYTICAL RESULTS
TABLE 1A
VALIDATED DATA

Case No.: R99S48 (SDG's: 99265B, 99271C, and 99279B)
Site: Colorado River
Lab.: Region 9, Richmond
Reviewer: Carl Brickner, Jr., EPA/QAP
Date: February 4, 2000
Analysis Type: Perchlorate and Total Dissolved Solids

Sample No.	N/A			N/A			N/A			N/A			N/A			N/A			N/A			429490		
Sample I.D.	Woody Mtn. Well			Woody Mtn. Raw			Lake Mary Raw			Lake Mary Surface			Lake Mary Plant			Reagent Blank			CR abv Imp. Dam					
Lab Sample I.D.	AB24188			AB24189			AB24190			AB24191			AB24192			N/A			AB24284					
Date of Collection	09/21/99			09/21/99			09/21/99			09/21/99			09/21/99			N/A			12/16/98					
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com			
Perchlorate in ug/L	5 U			5 U			5 U			5 U			5 U			5 U			3 L	J	AB			
Total Dissolved Solids in mg/L	130			120			320			70			180			20 U			770	J	B			

Sample No.	429490			429490			429490			429490			522000			522000			522000					
Sample I.D.	CR abv Imp. Dam			CR abv Imp. Dam			CR abv Imp. Dam			CR abv Imp. Dam			CR @ NIB			CR @ NIB			CR @ NIB					
Lab Sample I.D.	AB24285			AB24286			AB24287			AB24288			AB24289			AB24290			AB24291					
Date of Collection	03/24/99			04/28/99			05/26/99			08/25/99			12/17/98			03/25/99			04/27/99					
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com			
Perchlorate in ug/L	5	J	B	5	J	B	4 L	J	AB	4 L	J	AB	3 L	J	AB	5	J	B	4 L	J	AB			
Total Dissolved Solids in mg/L	690	J	B	760	J	B	800	J	B	770	J	B	680	J	B	830	J	B	870	J	B			

Sample No.	522000			522000			522000			N/A			09421500			09421500			09421500					
Sample I.D.	CR @ NIB			CR @ NIB			CR @ NIB			Reagent Blank			0.8mi DS of H.Dam			0.8mi DS of H.Dam			0.8mi DS of H.Dam					
Lab Sample I.D.	AB24292			AB24293			AB24294			N/A			AB24741			AB24742			AB24743					
Date of Collection	05/25/99			07/01/99			08/24/99			N/A			12/16/98			02/03/99			03/03/99					
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com			
Perchlorate in ug/L	3 L	J	AB	3 L	J	AB	5 U	J	B	5 U			9	J	B	8	J	B	8	J	B			
Total Dissolved Solids in mg/L	820	J	B	850	J	B	940	J	B	20 U			640	J	B	580	J	B	580	J	B			

Sample No.	09421500			09421500			09421500			N/A			N/A			Quantitation Limit								
Sample I.D.	0.8mi DS of H.Dam			0.8mi DS of H.Dam			0.8mi DS of H.Dam			Reagent Blank			Reagent Blank			N/A								
Lab Sample I.D.	AB24744			AB24745			AB24746			N/A			N/A			N/A								
Date of Collection	04/26/99			06/23/99			08/25/99			N/A			N/A			N/A								
Analyte	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result								
Perchlorate in ug/L	7	J	B	7	J	B	6	J	B	5 U						5								
Total Dissolved Solids in mg/L	620	J	B	580	J	B	590	J	B	20 U			20 U			20								

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
QL-Quantitation Limit.

D1, D2, etc.-Field Duplicate Pairs.
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Background Sample.
N/A-Not Applicable.
N/R-Not Required.

TABLE 1B
DATA QUALIFIERS

NO QUALIFIERS indicate that the data are acceptable both qualitatively and quantitatively.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

TELEPHONE RECORD LOG

Date of Call:
Laboratory Name:

Lab Contact:
Region:
Region Contact:

Call Initiated By: ___ Laboratory ___ Region

In reference to data for the following sample delivery group(s):

Please see attached correspondence.

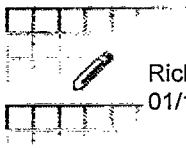
Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature

2/4/00
Date

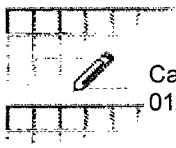
Distribution: (1) Region Lab Copy



Richard Bauer
01/11/2000 04:53 PM

To: Patrick Hirata/R9/USEPA/US@EPA, Kathleen OBrien/R9/USEPA/US@EPA
cc:
Subject: Colorado River R99S48 99265B Perchlorate/TDS data package

---------- Forwarded by Richard Bauer/R9/USEPA/US on 01/11/2000 01:53 PM ----------



Carl Brickner
01/11/2000 01:44 PM

To: Richard Bauer@EPA, Ken Hendrix/R9/USEPA/US@EPA
cc:
Subject: Colorado River R99S48 99265B Perchlorate/TDS data package

In the standard prep logs on data package page 68, S57-50-8 is referenced as being the source for S57-50-11, S57-50-12, S57-50-13, S57-50-14, and S57-50-15. I believe this is an error, please provide a corrected prep log page.

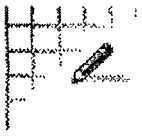
rec'd
1/14/00

INORGANIC STANDARDS AND REAGENTS PREPARATION LOG BOOK

STANDARD ID	DATE/ ANALYST	STANDARD NAME	ANALYTE	SOURCE SUPPLIER	SOURCE EXP. DATE	SOURCE LOT NO.	SOURCE CONC. /PURITY	ALIQUOT (WT or VOL)	FINAL VOLUME	FINAL CONC.	STD EXP. DATE
557-50-01	9/21/99 [illegible]	S1-QL	perchlorate	N/A	9/24/99	557-49-12	20 mg/L	0.05 mL	100 mL	5 ug/L	9/24/99
557-50-02		S2						0.1 mL		10 ug/L	
557-50-03		S3						0.25 "		25 ug/L	
557-50-04		S4-2QL						0.5 "		50 ug/L	
557-50-05		S5						1.0 ~~1.0 ..~~ 05/22/01		100 ug/L	
557-50-06		Spike				557-49-13	1 mg/L	0.05 mL	10 mL	5 ug/L	
				Revised by: [illegible]				05/22/01			
557-50-07	9/24/99 [illegible]	10 mg/L ClO4	Perchlorate	N/A	10/31/99	557-49-03	1000 mg/L	1 mL	100 mL	10 mg/L	9/24/99
557-50-08		1 mg/L "			9/24/99	557-50-07	10 mg/L	1 mL	10 mL	1 mg/L	
557-50-09		10 mg/L ClO4 2nd source		Environmental Resource Assoc.	12/99	1124-98-08	1000 mg/L	1 mL	100 mL	10 mg/L	
557-50-10		QCS		N/A	9/24/99	557-50-09	10 mg/L	0.45 mL	100 mL	45 ug/L	
557-50-11		S1-QL				557-50-07 ~~557-50-08~~ 05/22/01	10 mg/L	0.05 mL	100 mL	5 ug/L	
557-50-12		S2						0.1 mL		10 ug/L	
557-50-13		S3						0.25 mL		25 ug/L	
557-50-14		S4-2QL						0.5 mL		50 ug/L	
557-50-15		S5						1 mL		100 ug/L	
557-50-16		Spike				557-50-08	1 mg/L	0.05 mL	10 mL	5 ug/L	
				Revised by: [illegible]				05/22/01			

05/22/01

000050



Carl Brickner
01/13/2000 01:41 PM

To: Richard Bauer@EPA, Ken Hendrix/R9/USEPA/US@EPA
cc:
Fax to:
Subject: Colorado River R99S48 99271C Perchlorate/TDS data package

In the standard prep logs on data package page 115, S57-47-03 is referenced as being the source for S64-26-07. Could you please provide the prep log page for S57-47-03.

rec'd
reply
1/31/00 -

INORGANIC STANDARDS & REAGENTS PREPARATION LOG BOOK

STANDARD ID	DATE/ ANALYST	STANDARD NAME	ANALYTE	SOURCE SUPPLIER	SOURCE EXP. DATE	SOURCE LOT NO.	SOURCE CONC. /PURITY	ALIQUOT (WT or VOL)	FINAL VOLUME	FINAL CONC.	STD EXP. DATE
S57-47-01	8/26/99 SACSND	Sulfanilamide	NO_3N	JT Baker	N/A	H13707	granular	40g	1L	Color	8/26/2000
		N-(1-Naphthyl) ethylenediamine dihydride	$+NO_2N$	Spectrum	N/A	HK043	98.0%	1g		Reagent for NO_3N	
		H_3PO_4		Mallinckrodt		2796KPLX	85%	100mL			
S57-47-02	8/26/99 SACSND	NH_4Cl	NO_3N	JT Baker	N/A	M01162	100%	170g	2L	NH_4Cl Buffer for NO_2N+NO_3N analysis	8/26/2000
		Na2 EDTA	$+NO_3N$	JT Baker	N/A	L10644	100.3%	2g			
		NaOH (15%)		N/A	N/A	54-27-23	15%	50mL			
S57-47-03	9/3/99 HL	$KClO_4$	perchlorate	Aldrich	N/A	PR1560LR	99%	0.6965g	500mL	1000mg/L	10/3/99
S57-47-04		10mg/L Cl$^-$		N/A	10/3/99	S57-47-03	1000mg/L	1mL	100mL	10mg/L	9/3/99
S57-47-05		1mg/L "			9/3/99	S57-47-04	10mg/L	1mL	10mL	1mg/L	
S57-47-06		S1 - QL-1			9/3/99	S57-47-04		0.05mL	100mL	5µg/L	
S57-47-07		S2						0.1mL		10µg/L	
S57-47-08		S3						0.25mL		25µg/L	
S57-47-09		S4-QC						0.5		50µg/L	
S57-47-10		S5						1mL		100µg/L	
S57-47-11		Spike				S57-47-05	1mg/L	0.25mL	10mL	25µg/L	
S57-47-12		10mg/L Cl$^-$ 2nd source		Environmental Resource Assoc.	12/99	1124-99-08	1000mg/L	1mL	100mL	10mg/L	
S57-47-13		QCS		N/A	9/3/99	S57-47-12	10mg/L	0.45mL	100mL	45µg/L	
S57-47-14	9/3/99 SACSND	Working Std	CN^-	CPI	3/2/2001	9GK096	1000mg/L	1.0mL	100mL	10mg/L CN^-	9/3/99
		NaOH		Aldrich	9/3/2000	S57-47-15	0.25M	99mL			
S57-47-15		NaOH		Aldrich	N/A	055201CG	97+%	20g	2L	0.25M	9/3/2000

Reviewed 9/03/99

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